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CAMBRIDGE, MASS. MARCH 6, 1973

NUMBER 401

THE CHAÑARES (ARGENTINA) TRIASSIC REPTILE FAUNA. XVIII. *Probelesodon minor*, A NEW SPECIES OF CARNIVOROUS CYNODONT; FAMILY PROBAINOGNATHIDAE NOV.

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ABSTRACT. A small species of *Probelesodon*, similar to *P. lewisi* but of smaller size, is described as *Probelesodon minor* sp. nov.

Because of its advanced nature, particularly in the development of a squamosal socket for lower jaw articulation, it seems advisable to remove *Probainognathus* from the Chiniquodontidae and to erect for it the monotypic new family Probainognathidae.

Probelesodon minor sp. nov.

Holotype: La Plata Museum 64-XI-14-18 (field no. 138 pt.). A skull and jaws (Figs. 1, 2). From the Chañares Formation, about 4 km north of the mouth of the Rio Chañares, La Rioja Province, Argentina.

Diagnosis. A small species of *Probelesodon*, about half the size of *P. lewisi*, known skulls having a basal length of about 70 mm.

In earlier papers on the carnivorous cynodonts from the Chañares (Romer, 1969, 1970), two forms were clearly distinguishable, a large form described as *Probelesodon lewisi*, and a small, more advanced form described as *Probainognathus jenseni*. At the time of publication, preparation of this carnivorous series had not been completed and it was assumed that all the small skulls pertained to *Probainognathus*. With further preparation by Head Preparator Arnold D. Lewis, it became obvious that this is not the case. Several small skulls and jaws are clearly of the *Probelesodon* type. All are apparently mature, and do not represent growth stages; all are about half the size of the "typical" specimens of *Probelesodon lewisi*, and show a size difference too great to be sexual dimorphism. It is obvious

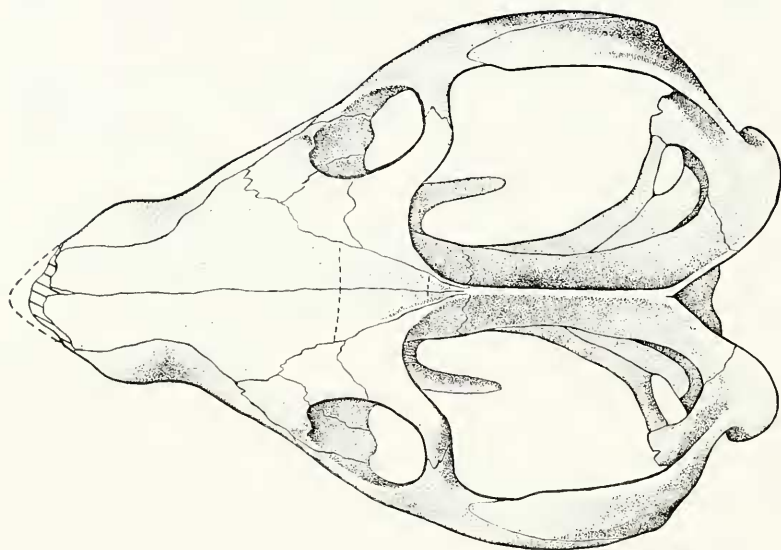


Figure 1. *Probelesodon minor*, holotype skull in dorsal view, $\times 3/2$.

that we have a second, small, species of *Probelesodon* which is herewith described.

In addition to the holotype the new species is represented by: MCZ 4100, a skull and jaws; MCZ 4099, partial skull and jaws; MCZ 3777, jaws and some postcranial scraps; MCZ 4102, incomplete jaws; MCZ 4163, postcranial materials.

The holotype skull is incomplete in the premaxillary area, but total length was approximately 78 mm from snout to the level of the posterior end of the squamosal arch, 68 mm to the condyle. The lower jaw length is 64 mm. In MCZ 4100 the comparable figures are 73, 70, and probably 62 mm (the jaw is incomplete posteriorly). The materials of MCZ 4099, MCZ 3777, and MCZ 4102 are comparable in size. The postcranial material of MCZ 3777 (to be described in the next paper in this series) is comparable in nature to equivalent elements in *P. lewisi* except for smaller size, and the postcranial elements of MCZ 4163 are similar.

In all major features the skull and jaws are comparable to those in *P. lewisi*; skull proportions are closely comparable and the sutural pattern is similar, except that in *P. minor* the lacrimal and prefrontal are somewhat more expanded dorsally at the

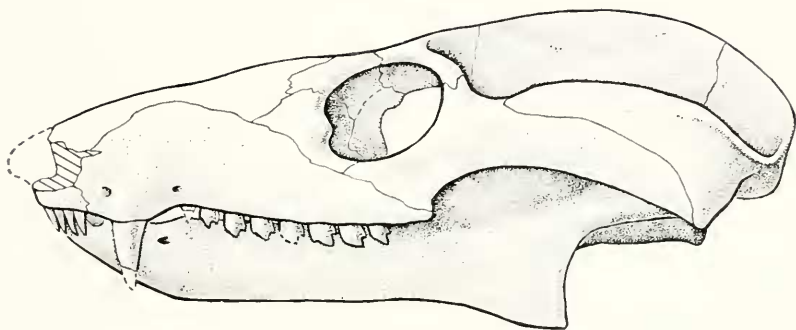


Figure 2. *Probelesodon minor*, holotype skull in lateral view, $\times 3/2$.

expense of the nasal. The secondary palate, as in *P. lewisi*, extends remarkably far back, exceeding in development even the contemporary *Probainognathus*. As in *Probainognathus jenseni* the posteroventral flanges of the pterygoid are highly developed; also as in that species the posterior end of the lower jaw lies very close to the inner surface of the squamosal, and there was presumably a ligamentous connection, although no development of a "glenoid" articular surface.

As in *P. lewisi* there were four premaxillary "incisors," and there are, in the type and MCZ 4100, eight postcanine cheek teeth. As in *P. lewisi* these teeth are somewhat "hooked" — curved backwards at their tips. Three "incisors" are present in the lower jaw, and seven "cheek" teeth behind the prominent canine.

I have earlier suggested that *Probelesodon lewisi* was ancestral to the larger *Belesodon* of the Brazilian Santa Maria beds. Closely related to the latter was the smaller, contemporary, *Chiniquodon*. Not improbably *P. minor* may have been ancestral to *Chiniquodon*, a form of similar structure but of considerably larger size.

PROBAINOGNATHIDAE Fam. Nov.

The carnivorous cynodonts from the Chañares Formation, *Probainognathus* and *Probelesodon*, are both obviously advanced forms, with an elongate secondary palate and other progressive features. Similarly advanced are the Santa Maria forms, *Chiniquodon* and *Belesodon*, for which Huene (1944) erected the family Chiniquodontidae. In the past, I have included both

Chañares genera in that family. That this assignment is correct for *Probelesodon* seems certain, for that genus is obviously closely related to the Santa Maria forms. The position of *Probainognathus*, however, calls for further consideration. Like the proper chiniquodonts, *Probainognathus* is quite surely descended from the primitive galesaurid cynodonts of the early Triassic. But the progress has been in a somewhat different direction. The chiniquodonts proper are even more advanced in palatal construction than *Probainognathus*, but are apparently somewhat aberrant in dentition and in certain postcranial features to be described in a future number of this series of publications. *Probainognathus*, on the contrary, appears to be taking a direct course toward a mammalian condition and shows a very marked progressive situation in the development of a "glenoid" socket in the squamosal for lower jaw articulation. On the whole, it is perhaps best to separate *Probainognathus* as the type of a new family Probainognathidae, characterized by progressive cynodont features, most important of which is the articulation of the lower jaw with the squamosal in mammalian fashion.

Collection and preparation of *Probelesodon* and *Probainognathus* were made possible by grants from the National Science Foundation.

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